

IN THE CLAIMS:

Set forth below in ascending order, with status identifiers, is a complete listing of all claims currently under examination. Changes to any amended claims are indicated by strikethrough and underlining. This listing also reflects any cancellation and/or addition of claims.

1. (currently amended) A method for processing multi-channel audio data from multiple sources using a single sound card, comprising:

presenting a plurality of virtual devices to a user with each virtual device having an association with a set of output audio channels of the single sound card corresponding to a physical placement of a set of output audio devices in a geographical location, the presenting including displaying a list of the plurality of virtual devices on a graphical user interface presenting a plurality of virtual devices to a user;

receiving a selection from the user associating each of a plurality of audio applications to at least one virtual device, the selection being an association of at least one of a plurality of audio data streams generated by different applications with at least one of the plurality of virtual devices, each virtual device associated with at least one output audio channel of a plurality of output channels of a sound card; and

using a plurality of virtual device drivers to write audio data streams from open audio applications into a system memory accessible by the single sound card and to program the single sound card to associate audio data streams of open audio applications with output audio channels based on the user's selection of virtual devices; and

at an audio processing unit of the single sound card, reading audio data and the virtual device selection from system memory;

at the audio processing unit of the single sound card, multiplexing audio data streams from open applications based on the user's selection to support simultaneously outputting audio from a plurality of open applications according to the user's selection of virtual devices; and

the single sound card simultaneously outputting audio from two or more different open audio applications according to the user's selection of virtual devices, wherein the user's selection associates one or more virtual devices with the audio stream of each open application;

wherein the two or more different open audio applications are selected from the group consisting of a media player, video game software, and a video player and the selection of virtual devices by the user determines the geographical location of output audio devices for each open audio application;

wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio applications according to an arbitrary user selection of open applications and the selection of virtual devices.

2. (previously presented) The method of claim 1, further comprising the audio processing unit writing multiplexed audio data streams back to system memory and an audio codec interface of the sound card reading multiplexed audio data streams from system memory and routing signals in the digital domain to a plurality of audio codec DACs to generate analog output channels according to the user's selection.

3-9. (cancelled)

10. (currently amended) A system for processing multi-channel audio data from multiple sources using a single sound card, comprising:

the single sound card having an audio processing unit to read digital audio data from a memory and an audio codec having a plurality of digital to analog converters (DACs) to support a plurality of analog output channels;

a graphical user interface configured to display a plurality of virtual devices to a user with each virtual device having an association with a set of output audio channels of the single sound card corresponding to a physical placement of a set of output audio devices in a geographical location, each of the plurality of virtual devices representative of at least one of the plurality of output channels on the single sound card, the graphical user interface further configured to receive a selection from the user, the selection being an association of each an

audio data stream with at least one of the plurality of virtual devices, the single sound card coupled to the graphical user interface to receive the user selection and the audio data streams, the single sound card further configured to output the audio data stream based on the selection; and

a plurality of virtual device drivers to write digital audio data streams from open applications into the memory and to program the single sound card to associate digital audio data streams of open applications with analog output audio channels based on the user's selection of virtual devices;

the system simultaneously outputting audio from two or more open applications according to the user's selection of virtual devices, wherein the user's selection associates one or more virtual devices with the audio stream of each open application

wherein the two or more different open applications are selected from the group consisting of a media player, video game software, and a video player and the selection of virtual devices by the user determines the geographical location of output audio devices for each open audio application;

wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio applications according to an arbitrary user selection of open applications and the selection of virtual devices.

11-16. (cancelled)

17. (currently amended) A system for processing audio data, comprising:

a system memory having a plurality of audio data records from open audio applications and a user selection, the user selection being an association of each of the plurality of audio data records with at least one of a plurality of virtual devices, with each virtual device having an association with a set of output audio channels of the single sound card corresponding to a physical placement of a set of output audio devices in a geographical location each of the plurality of virtual devices representative of at least one of a plurality of output channels on a single sound card;

an audio processor of the single sound card being coupled to the system memory and configured to read the plurality of audio data records and the user selection, the audio processor further configured to multiplex the plurality of audio data records based on the user selection into a multiplexed audio data record; and

an audio codec and associated audio codec interface of the single sound card being coupled to the system memory and configured to parse the multiplexed audio record into a plurality of output data streams, each of the plurality of output data streams being associated with at least one of the plurality of output channels, the audio codec including a plurality of digital to analog converters (DACs) with the audio codec being configured to process the plurality of output data streams and assign output data streams to digital-to-analog converters associated with output channels defined by the selection;

the system supporting simultaneously outputting audio from two or more open applications according to the user's selection of virtual devices, wherein the user's selection associates one or more virtual devices with the audio stream of each open application

wherein the two or more different open applications are selected from the group consisting of a media player, video game software, and a video player and the selection of virtual devices by the user determines the geographical location of output audio devices for each open audio application;

wherein the single sound card performs any audio mixing required to output audio from the two or more different open audio applications according to an arbitrary user selection of open applications and the selection of virtual devices.

18. (original) The systems of claim 17, wherein the first processor is further configured to mix at least two of the plurality of audio data records.

19-23. (cancelled)